

<b>INFORMATION DISCLOSURE CITATION</b>  <b>PTO-1449</b>		<b>ATTY. DOCKET NO.</b> 22700-730		<b>SERIAL NO.</b> Not Yet Assigned	
		<b>APPLICANT</b> Santasiero et al.			
		<b>FILING DATE</b> 12/21/01		<b>GROUP</b> Unassigned	

J0826 U.S. PTO  
**10/026362**  
 12/21/01

U.S. PATENT DOCUMENTS						
EXAMINER'S INITIALS	PATENT NO.	DATE	NAME	CLASS	SUBCLASS	FILING DATE
Y6	4,833,233	5-23-89	Carter	530	363	8-20-87
	6,057,159	5-2-00	Lepre	436	86	12-12-97
	4,263,010	4-21-81	Randolph	23	230 A	10-31-79
	4,668,584	5-26-87	Uzgiris et al.	428	408	12-23-85
	4,755,363	7-5-88	Fujita et al.	422	245	10-29-86
	4,886,646	12-12-89	Carter et al.	422	245	3-23-88
	4,919,899	4-24-90	Herrmann et al.	422	245	2-29-88
	5,078,975	1-7-92	Rhodes et al.	422	253	12-18-90
	5,096,676	3-17-92	McPherson et al.	422	245	8-2-90
	5,419,278	5-30-95	Carter	117	206	5-25-94
	5,641,681	6-24-97	Carter	436	4	4-17-95
	5,643,540	7-1-97	Carter et al.	422	245.1	2-27-95
	5,872,010	2-16-99	Karger et al.	436	173	7-3-96
	5,096,676	3-17-92	McPherson et al.	422	245	8-2-90
	5,221,410	6-22-93	Kushner et al.	156	600	10-9-91
V	5,873,394	2-23-99	Meltzer	141	130	9-18-97
	6,039,804	3-00	Kim et al.	117	206	

FOREIGN PATENT DOCUMENTS							
EXAMINER'S INITIALS	PATENT NO.	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION	
						YES	NO
Y6	WO 00/60345	12/10/00	PCT	G01N	31/00	<input type="checkbox"/>	<input type="checkbox"/>
	0 553 539 A1	04/08/93	Europe	C30B	7/00	<input type="checkbox"/>	<input type="checkbox"/>

EXAMINER	<i>Y6</i>	DATE CONSIDERED	12/09/01
----------	-----------	-----------------	----------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>INFORMATION DISCLOSURE CITATION</b>  <b>PTO-1449</b>	ATTY. DOCKET NO. 22700-730	SERIAL NO. Not Yet Assigned
	APPLICANT Santasiero et al.	
	FILING DATE 12/21/01	GROUP Unassigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
Y6	Stewart, P.D.S. et al., "Practical Experimental Design Techniques for Automatic and Manual Protein Crystallization" J CRYSTAL GROWTH 196, pp. 665-673	
	Baldock, P. et al., "A Comparison of Microbatch And Vapor Diffusion For Initial Screening of Crystallization Conditions" J. CRYSTAL GROWTH 168; pp. 170-174	
	Cudney, B. et al., "Screening and Optimization Strategies For Macromolecular Crystal Growth", ACTA CRYSTALLOGR D50, pp. 414-423	
	McPherson, A., "Two Approaches to the Rapid Screening of Crystallization Conditions" J CRYSTAL GROWTH 122; pp. 161-167	
	Ward, K.B. et al., "Automating Crystallization Experiments. In: Crystallization of Nucleic Acids and Proteins: a Practical Approach" eds. A. Ducruix & R. Giege, Oxford University Press, New York; pp. 291-310.	
	Weber, P.C., "Overview of Protein Crystallization Methods" METHODS ENZYMOL, 276, pp. 13-22 (1997)	
	McPherson, A. "Crystallization of Biological Macromolecules" COLD SPRING HARBOR LABORATORY PRESS; (1999)	
	McPherson, A. "Crystallization of Macromolecules: general principals" METHODS ENZYMOL, 114; pp. 112-120 (1985)	
	McPherson, A. "Use of Polyethylene Glycol in the Crystallization of Macromolecules" METHODS ENZYMOL; 114; pp. 120-125 (1985)	
	McPherson, A. "Crystallization of Proteins by Variation of pH or Temperature", METHODS ENZYMOL, 114; pp. 125-127	
✓	Jancarik, J. et al., "Sparse Matrix Sampling: A Screening Method For Crystallization of Proteins", J. APPL. CRYST. 24; pp. 409-411 (1991)	
EXAMINER	Yellu Heli	DATE CONSIDERED 12/09/04

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>INFORMATION DISCLOSURE CITATION</b>  <b>PTO-1449</b>	<b>ATTY. DOCKET NO.</b> 22700-730	<b>SERIAL NO.</b> Not Yet Assigned
	<b>APPLICANT</b> Santasiero et al.	
	<b>FILING DATE</b> 12/21/01	<b>GROUP</b> Unassigned
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>		
Y	Gilliland, G.L. et al., "Biological Macromolecule Crystallization Database, Version 3.0: New Features, Data and the NASA Archive for Protein Crystal Growth Data" ACTA CRYSTALLOGR. D50; pp. 408-413 (1994)	
	Perrakis, A et al., "Protein Microcrystals and the Design of a Micro-Diffractometer: Current Experience and Plans at EMBL and ESRF/ID13; ACTA CRYSTALLOGR D55; pp. 1765-1770 (1999)	
	Pebay-Peyroula, R. et al., "X-ray Structure of Bacteriorhodopsin at 2.5 Angstroms from Microcrystals Grown Lipidic Cubic Phases" SCIENCE 277; pp. 1676-1681	
	Sibille, L., Clunie, J.C., Baird, J.K. Solvent evaporation rates in the closed capillary vapor diffusion method of protein crystal growth. <i>J. Cryst. Growth</i> 110, 80-88 (1991).	
	Montelione, G, Anderson, S: Structural genomics: keystone for a human proteome project. <i>Nature Struct Biol</i> (1999) 6(1):11-12.	
	Burley, SK, Almo, SC, Bonanno, JB, Capel, M, Chance, MR, Gaasterland, T, Lin, D, Sali, A, Studier, FW, Swaminathan, S: Structural genomics: beyond the Human Genome Project. <i>Nature Genet</i> (1999) 23:151-157.	
	Gaasterland, T: Structural genomics: Bioinformatics in the driver's seat. <i>Nature Biotechnol</i> (1998) 16:625-627.	
	Rost, B: Marrying structure and genomics. <i>Structure</i> (1998) 6:259-263.	
	Shapiro, L, Lima, CD: The Argonne Structural Genomics Workshop: Lamaze class for the birth of a new science. <i>Structure</i> (1998) 6:265-267.	
	Ducruix, A, Giege, R (Eds): <i>Crystallization of nucleic acids and proteins. A practical approach. Second edition.</i> Oxford: Oxford University Press; (1999).	
	D-Arcy, A: Crystallizing proteins - a rational approach? <i>Acta Crystallogr D</i> (1994) 50:469-471.	
	Stura, EA, Satterthwait, AC, Calvo, JC, Kaslow, DC, Wilson, IA: Reverse screening. <i>Acta Crystallogr D</i> (1994) 50:448-455.	
	Hampton Research Homepage on World Wide Web at URL: <a href="http://www.hamptonresearch.com">http://www.hamptonresearch.com</a>	
	Emerald BioStructures Homepage on World Wide Web at URL: <a href="http://www.emeraldbiostructures.com">http://www.emeraldbiostructures.com</a>	
	Carter, C, Jr: Efficient factorial designs and the analysis of macromolecular crystal growth conditions. <i>Methods</i> (1990) 1(1):12-24	
✓	Carter, C, Jr: Design of crystallization experiments and protocols. <i>Crystallization of nucleic acids and proteins. A practical approach.</i> Ducruix, A, Giege, R, (Eds): New York: IRL Press; (1992):47-71	
<b>EXAMINER</b>	Miller Hal	<b>DATE CONSIDERED</b> 12/09/04

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>INFORMATION DISCLOSURE CITATION</b>  <b>PTO-1449</b>	ATTY. DOCKET NO. 22700-730	SERIAL NO. Not Yet Assigned
	APPLICANT Santasiero et al.	
	FILING DATE 12/21/01	GROUP Unassigned
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)		
46	Jones, N, Swartzendruber, JK, Deeter, JB, Landis, ND, Clawson, DK: Apocalypse now: update on automated protein crystallization using the new ACA vapor diffusion plate. <i>Acta Crystallogr A</i> (1987) 43(Supplement): C275.	
	Douglas Instruments Homepage on World Wide Web at URL: <a href="http://www.douglas.co.uk/home.htm">http://www.douglas.co.uk/home.htm</a> A good introduction to the application of the microbatch technique for high-throughput work is available at the Web Site of Douglas Instruments [URL: <a href="http://www.douglas.co.uk/proposal.htm">http://www.douglas.co.uk/proposal.htm</a> - The use of microbatch for large scale crystallization projects].	
	Cyberlabs Homepage on World Wide Web at URL: <a href="http://www.gilson.com/cyberprd.htm">http://www.gilson.com/cyberprd.htm</a> First commercially available robotics system for protein crystal growth. The Cyberlabs instrument has undergone revisions over the years. They are now addressing the need to create imaging stations for protein crystal analysis.	
	Baird, JK: Theory of protein crystal nucleation and growth controlled by solvent evaporation. <i>J Cryst Growth</i> (1999) 204:553--562	
	Bullock, E. and E.C. Pyatt, Apparatus for the growth of crystals from small volumes of solution, in <i>J. Phys.</i> E. 1972. 412-13.	
	Luft, J.R., D.M. Rak, and G.T. DeTitta, Microbatch macromolecular crystallization in micropipettes, in <i>J. Cryst. Growth</i> . 1999. 450-455.	
	Pusey, M. and R. Naumann, Growth kinetics of tetragonal lysozyme crystals, in <i>J. Cryst. Growth</i> . 1986. 593-9.	
	Reshetnyak, I.I., Effect of ultrasound on crystallization kinetics in small volumes of solutions, in <i>Akust. Zh.</i> 1975. 99-103.	
	Rippon, G.D., A. Patak, and A.T. Marshall, Improved microdroplet method for quantitative x-ray microanalysis of small fluid samples, in <i>Micron</i> . 1993. 17-21.	
	Tebbutt, J.S., T. Marshall, and R.E. Challis, Monitoring of crystallization phenomena by ultrasound, in <i>Electron. Lett.</i> 1999. 90-91.	
	Zeppezauer, M., H. Eklund, and E.S. Zeppezauer, Micro diffusion cells for the growth of single protein crystals by means of equilibrium dialysis, in <i>Arch. Biochem. Biophys.</i> 1968. 564-73.	
	Chayen, N.E., Shaw Stewart, P.D., Blow, D.M.: Microbatch crystallization under oil - a new technique allowing many small-volume crystallization trials. <i>J Crystal Growth</i> (1992) 122:176-180.	
	Chayen, N.E., Shaw Stewart, P.D. , Baldock, P.: New developments of the IMPAX small-volume automated crystallization system. <i>Acta Cryst</i> (1994) D50:456-458.	
	Wilson, S.A., et al.: Crystallization of and preliminary X-ray data for the negative regulator (AmiC) of the amidase operon of <i>Pseudomonas aeruginosa</i> . <i>J Mol Biol</i> (1991), 222: 869-871.	
✓	Varadarajan, R. and F.M. Richards: Crystallographic structures of ribonuclease S variants with nonpolar substitution at position 13: packing and cavities. <i>Biochemistry</i> (1992), 31: 12315-12327.	
EXAMINER	<i>Yellw Ad</i>	DATE CONSIDERED 12/09/01

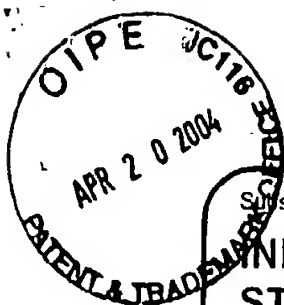
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>INFORMATION DISCLOSURE CITATION</b>  <b>PTO-1449</b>	<b>ATTY. DOCKET NO.</b> 22700-730	<b>SERIAL NO.</b> Not Yet Assigned
	<b>APPLICANT</b> Santasiero et al.	
	<b>FILING DATE</b> 12/21/01	<b>GROUP</b> Unassigned
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>		
Y6	Rawas, A., et al.: Preliminary crystallographic studies on duck ovotransferrin. <i>J Mol Biol</i> (1989), 208: 213-214.	
	Evans, P.R., G.W. Farrants, and M.C. Lawrence: Crystallographic structure of allosterically inhibited phosphofructokinase at 7 A resolution. <i>J Mol Biol</i> (1986), 191: 713-720.	
	Rubin, B., Talafous, J., Larson, D.: Minimal intervention robotic protein crystallization. <i>J. Cryst Growth</i> (1991) 110:156-163	
	Kelders, H.A., et al.: Automated protein crystallization and a new crystal form of a subtilisin:eglin complex. <i>Protein Eng</i> (1987), 1: 301-3.	
	Oldfield, T.J., Ceska, T.A., Brady, R.L. A flexible approach to automated protein crystallization. <i>J Appl Cryst</i> (1991) 24:255-260.	
	Andersen, G.R., Nyborg, J. A spreadsheet approach to automated protein crystallization. <i>J Appl Cryst</i> (1996) 29:236-240.	
	Morris, D.W., Kim, C.Y., McPherson, A. Automation of protein crystallization trials: use of a robot to deliver reagents to a novel multi-chamber vapor diffusion plate. <i>Biotechniques</i> (1989) 7:522-527.	
	Swartzendruber, J.K., Jones, N.D. APOCALYPSE: an automated protein crystallization system. III. In the beginning: The genesis of software. (1988) p.81 Annual Meeting of the American Crystallographic Association, Philadelphia, PA.	
	Weber, P.C., Cox, M.J. Experiments with automated protein crystal growth. (1987) p.28 Annual Meeting of the American Crystallographic Association, Philadelphia, PA.	
	Brodersen, D. E., Jenner, L. B., Andersen, G. R. and Nyborg, J. (1999). XAct: a program for construction, automated setup and bookkeeping of crystallization experiments. <i>J. Appl. Crystallogr.</i> 32: 1012-16	
	Zeelen, J. Ph.; Hiltunen, J. K.; Ceska, T. A.; Wierenga, R. K. (1994) Crystallization experiments with 2-enoyl-CoA hydratase, using an automated 'fast-screening' crystallization protocol. <i>Acta Crystallogr. D50</i> : 443-447	
	Diller, D.J., Hol, W.G.J. An accurate numerical model for calculating the equilibration rate of a hanging-drop experiment. <i>Acta Crystallogr. D55</i> , 656-663 (1999).	
	Pusey, M.L. et al., "Protein Crystal Growth" GROWTH KINETICS FOR TETRAGONAL LYSOZYME CRYSTALS, 261; pp. 6524-6529	
	Cox, M. J. et al., "An Investigation of Protein Crystallization Parameters Using Successive Automated Grid Searches (SAGS)", <i>Journal of Crystal Growth</i> , Vol. 90, Nos. 1-3, July 1988, pp. 318-324.	
✓	Chayen, N. et al., "An Automated System for Micro-Batch Protein Crystallization and Screening", <i>J. Appl. Cryst.</i> , Vol. 23 (1990), pp. 297-302.	
<b>EXAMINER</b>	Melu Heli	<b>DATE CONSIDERED</b> 12/09/04

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<b>INFORMATION DISCLOSURE CITATION</b>  <b>PTO-1449</b>	ATTY. DOCKET NO. 22700-730	SERIAL NO. Not Yet Assigned
	APPLICANT Santasiero et al.	
	FILING DATE 12/21/01	GROUP Unassigned
<b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>		
46	Tisone, T., "Dispensing systems for miniaturized diagnostics", <i>IVD Technology Magazine</i> (Online), May 1998, 9 pages.	
	Berry, M. B., "Protein Crystallization: Theory and Practice", <i>Structure and Dynamics of E. Coli Adenylate Kinase</i> ; Thesis, Rice University, Houston, TX, (Online) (1995), 13 pages.	
	Yakovlev, Y. et al., "A Laboratory Apparatus for Crystal Growth from Solution", <i>Instruments and Experimental Techniques</i> , Vol. 41, No. 2 (1998), pp. 157-161.	
	Casay, G. et al., "Laser scattering in a hanging drop vapor diffusion apparatus for protein crystal growth in a microgravity environment", <i>Journal of Crystal Growth</i> , Vol. 122 (1992), pp. 95-101.	
	Gonzalez, F. et al., "Crocodile: An Automated Apparatus For Organic Crystal Growth From Solution", <i>Acta Astronautica</i> , Vol. 25, No. 12 (1991), pp. 775-784.	
	Beckmann, W. et al., "The Effect Of Additives on Nucleation: A Low Cost Automated Apparatus", <i>Journal of Crystal Growth</i> , Vol. 99 (1990), pp. 1061-1064.	
	Leonidas, D. et al., "Refined Crystal Structures of Native Human Angiogenin and Two Active Site Variants: Implications for the Unique Functional Properties of an Enzyme Involved in Neovascularisation During Tumour Growth", <i>J. Mol. Biol.</i> , Vol. 285 (1999), pp. 1209-1233.	
	Cox, M. J. et al., "Experiments with Automated Protein Crystallization", <i>J. Appl. Cryst.</i> , Vol. 20 (1987), pp. 366-373.	
	Ward, K.B. et al., "Automatic Preparation of Protein Crystals Using Laboratory Robotics and Automated Visual Inspection", <i>Journal of Crystal Growth</i> , Vol. 90 (1988), pp. 325-339.	
	Soriano, T. et al., "ASTEC: an Automated System for Sitting-Drop Protein Crystallization", <i>J. Appl. Cryst.</i> , Vol. 26 (1993), pp. 558-562.	
	Newman, A., "Send in the Robots", <i>Analytical Chemistry</i> , Vol. 62, No. 1, January 1, 1990, pp. 29A-34A.	
	"Automatic Protein Crystallization System", (Advertising Supplement), Douglas Instruments Ltd., London, (1990), 4 pages.	
	Stevens, R.C. et al., Research Proposal for development and testing of a system of robotics workstations dedicated to protein crystallization. E.O. Lawrence Berkeley National Laboratory and The Scripps Research Institute, pp. 2, 29-52 (Rev. May 1995).	
	Sali, A., "100,000 protein structures for the biologist", printed April 1, 1999 from world wide web site <a href="http://guitar.rockefeller.edu/avalon/review/avalon.html">http://guitar.rockefeller.edu/avalon/review/avalon.html</a> , 7 pages.	
	"Functional Genomics", printed April 1, 1999 from world wide web site <a href="http://www.bmb.psu.edu/simpson/16genome/Function.htm">http://www.bmb.psu.edu/simpson/16genome/Function.htm</a> , 1 page.	
	Gaasterland, T., "The Role of Computational Biology In High-Throughput Structure Determination: Computation Before, During, and After Structural Genomics", printed April 1, 1999 from world wide web site <a href="http://www-fq.mcs.anl.gov/~gaasterland/sg-review-slides.html">http://www-fq.mcs.anl.gov/~gaasterland/sg-review-slides.html</a> , 14 pages.	
✓	"Crystallization Research Tools", Vol. 9, No. 1 (1999), Hampton Research Corp., Laguna Niguel, CA., 63 pgs	
EXAMINER	<i>Yelie Holt</i>	DATE CONSIDERED <i>12/09/04</i>

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 8

### Complete if Known

Application Number	10/026,362
Filing Date	December 21, 2001
First Named Inventor	Bernard Santarsiero et al.
Group Art Unit	1754
Examiner Name	Maribel Medina
Attorney Docket Number	2960.54-3

### U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Document Number	Publication Date/ Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
	AA	US- 4,900,147	02-13-1990	Bowley et al.	
	AB	US- 4,909,933	03-20-1990	Carter et al.	
	AC	US- 5,009,861	04-23-1991	Plass-Link	
	AD	US- 5,013,531	05-07-1991	Snyder et al.	
	AE	US- 5,076,698	12-31-1991	Smith et al.	
	AF	US- 5,106,592	04-21-1992	Stapelmann et al.	
	AG	US- 5,124,036	06-23-1992	Wallner et al.	
	AH	US- 5,193,686	03-16-1993	Trevithick	
	AI	US- 5,256,241	10-26-1993	Noever	
	AJ	US- 5,544,254	08-06-1996	Hartley et al.	
	AK	US- 5,581,476	12-03-1996	Osslund	
	AL	US- 5,790,421	08-04-1998	Osslund	
	AM	US- 5,855,753	01-05-1999	Trau et al.	
	AN	US- 5,973,779	10-26-1999	Ansari et al.	
	AO	US- 5,985,356	11-16-1999	Schultz et al.	
	AP	US- 5,997,636	12-07-1999	Gamarnik et al.	
	AQ	US- 6,036,920	03-14-2000	Pantoliano et al.	
	AR	US- 6,069,934	05-30-2000	Verman et al.	
	AS	US- 6,268,158B1	07-31-2001	Pantoliano et al.	
	AT	US- 2001/0016191A1	08-23-2001	Osslund	
	AU	US- 2001/0016314A1	08-23-2001	Anderson et al.	
	AV	US- 2001/0019845A1	09-06-2001	Bienert et al.	
	AW	US- 6,297,021B1	10-02-2001	Nienaber et al.	
	AX	US- 2001/0027745A1	10-11-2001	Weigl et al.	
	AY	US- 6,303,322B1	10-16-2001	Pantoliano et al.	
	AZ	US- 2001/0032582A1	10-25-2001	DeTitta et al.	
	BA	US- 2001/0055669A1	12-27-2001	Schultz et al.	
	BB	US- 2001/0055775A1	12-27-2001	Schultz et al.	
	BC	US- 2002/0022250A1	02-21-2002	Hendrickson et al.	
	BD	US- 2002/0048610A1	04-25-2002	Cima et al.	
	BE	US- 2002/0054663A1	05-09-2002	Olson et al.	
	BF	US- 2002/0062783A1	05-30-2002	Bray	
	BG	US- 2002/0067800A1	06-06-2002	Newman et al.	
	BH	US- 6,404,849B1	06-11-2002	Olson et al.	
	BI	US- 6,417,007B1	07-09-2002	Gittleman et al.	
	BJ	US- 2002/0106318A1	08-08-2002	DeLucas et al.	
	BK	US- 2002/0144738A1	10-10-2002	Unger et al.	
	BL	US- 2002/0164812A1	11-07-2002	DeLucas	

Examiner  
Signature

*Yeller Huh*

Date  
Considered

12/10/04

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.

<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Institute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 2 of 8

**Complete If Known**

Application Number	10/026,362
Filing Date	December 21, 2001
First Named Inventor	Bernard Santarsiero et al.
Group Art Unit	1754
Examiner Name	Maribel Medina
Attorney Docket Number	2960.54-3

Y6	BM	US- 2002/0169512A1	11-14-2002	Stewart	
	BN	US- 2003/0022383A1	01-30-2003	DeLucas	
	BO	US- 2003/0022384A1	01-30-2003	DeLucas	
	BP	US- 2003/0027348A1	02-06-2003	DeLucas et al.	
	BQ	US- 2003/0027997A1	02-06-2003	Bray et al.	
	BR	US- 6,558,623B1	05-06-2003	Ganz et al.	
	BS	US- 2003/0096421A1	05-22-2003	DeLucas et al.	
	BT	US- 6,579,358B2	06-17-2003	DeLucas et al.	
	BU	US- 6,592,824B2	07-15-2003	DeLucas et al.	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>4</sup>
		Country Code <sup>2</sup> - Number <sup>3</sup> - Kind Code <sup>5</sup> (if known)				
Y6	BV	WO 99/04361 A1	01-28-1999	Gester et al.		
	BW	JP02001013054A (Abstract only)	01-19-2001	Soda et al.		
	BX	WO 01/26797 A2 and A3	4-19-2003	Eickhoff et al.		
	BY	WO 01/92293 A2	12-06-2001	Kuil et al.		
	BZ	WO 02/093139 A2	11-21-2002	Stewart		

Examiner  
Signature

Jelmer Hale

Date  
Considered

12/10/04

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Institute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 3 of 8

**Complete if Known**

Application Number	10/026,362
Filing Date	December 21, 2001
First Named Inventor	Bernard Santarsiero et al.
Group Art Unit	1754
Examiner Name	Maribel Medina
Attorney Docket Number	2960.54-3

**U.S. PATENT DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Document Number	Publication Date/ Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
		US-			

**FOREIGN PATENT DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				

**OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS**

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
46	AAA	ABOLA, ENRIQUE et al., "Automation of X-ray crystallography", Nature Structural Biology, Structural Genomics Supplement, (11/2000), pp. 973-977.	
	AAB	Presentation: "PBD/Research/Research Areas/ AUTOMATION" (2/28/02), <a href="http://www.lbl.gov/LBL-Programs/pbd/xl_research/automation.html">http://www.lbl.gov/LBL-Programs/pbd/xl_research/automation.html</a> 4 pages.	
	AAC	CHAYEN, NAOMI E., "Tackling the bottleneck of protein crystallization in the post-genomic era", TRENDS in Biotechnology, Vol. 20, No. 3 (3/2002), 1 page.	
	AAD	CHAYEN, NAOMI E., "The role of oil in macromolecular crystallization", Structure, Vol. 5, No. 10 (1997), pp. 1269-1274.	
	AAE	CHAYEN, NAOMI E. et al., "Apocrustacyanin A1 from the lobster carotenoprotein $\alpha$ -crustacyanin: crystallization and initial X-ray analysis involving softer X-rays, Acta Cryst. D56 (2000), pp. 1064-1066.	
	AAF	CHAYEN, N.E. et al., "Porous Silicon: an Effective Nucleation-inducing Material for Protein Crystallization", J. Mol. Biol., Academic Press, 312 (2001), pp. 591-595.	
	AAG	CHAYEN, NAOMI E. et al., "Protein crystallization for genomics: towards high-throughput optimization techniques", Acta Cryst. D58 (2002), pp. 921-927.	
	AAH	CHAYEN, N.E. et al., "Trends and Challenges in Experimental Macromolecular Crystallography", Quarterly Review of Biophysics, 29, 3 (1996), pp. 227-278.	
	AAI	CHAYEN, NAOMI E. et al., "Purification, crystallization and initial X-ray analysis of the C <sub>1</sub> subunit of the astaxanthin protein, V <sub>600</sub> , of the chondrophore <i>Veella veella</i> ", Acta Cryst. D55, (1999), pp. 266-268.	

Examiner  
Signature

Melina Goh

Date  
Considered

12/10/04

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 4 of 8

## Complete if Known

Application Number	10/026,362
Filing Date	December 21, 2001
First Named Inventor	Bernard Santarsiero et al.
Group Art Unit	1754
Examiner Name	Maribel Medina
Attorney Docket Number	2960.54-3

46	AAJ	CHAYEN, NAOMI E. et al., "Space-grown crystals may prove their worth", Nature 398, 20 (1999), p. 6722.
	AAK	CIANCI, M. et al., "Structure of lobster apocrustacyanin A <sub>1</sub> using softer X-rays", Acta Cryst. D57 (2001), pp. 1219-1229.
	AAL	Press Release: "Crystallomics Core", Crystallomics Core at JCSG, <a href="http://bioinfo-core.icsq.org/bic/links/crystallomics.htm">http://bioinfo-core.icsq.org/bic/links/crystallomics.htm</a> (4/18/01), 2 pages.
	AAM	DELUCAS, LAWRENCE J. et al., "New High-throughput Crystallization Technology", <a href="http://www.hwi.buffalo.edu/ACA/ACA02/abstracts/text/E0014.html">http://www.hwi.buffalo.edu/ACA/ACA02/abstracts/text/E0014.html</a> (2002), 1 page.
	AAN	DONG, JUN et al., "Bound-solvent structures for microgravity-, ground control-, gel- and microbatch-grown hen egg-white lysozyme crystals at 1.8 Å resolution", Acta Cryst., D55 (1999), pp. 745-752.
	AAO	DOUGLAS INSTRUMENTS Proposal: Large-scale Xn "The use of Microbatch for Large Scale Crystallization Projects", <a href="http://douglas.co.uk/proposal.htm">http://douglas.co.uk/proposal.htm</a> (2/22/01), 6 pages.
	AAP	DOUGLAS INSTRUMENTS Website: "Differences - The Major Differences between Oryx 6 and IMPAX 1-5 (3/2001), 1 page.
	AAQ	DOUGLAS INSTRUMENTS Website: "Harvesting - Harvesting Crystals from Microbatch for Cryocrystallography", Research Report 3 (October 1995), 4 pages.
	AAR	DOUGLAS INSTRUMENTS, "Impax - IMPAX 1-5 for Crystallization with Microbatch, <a href="http://www.douglas.co.uk/impax.htm">www.douglas.co.uk/impax.htm</a> (printed on 2/19/04), 8 pages.
	AAS	DOUGLAS INSTRUMENTS Website: "Oryx 6 for Crystallization with Microbatch and Sitting Drop", <a href="http://douglas.co.uk/oryx.htm">http://douglas.co.uk/oryx.htm</a> (printed on 2/19/04), 7 pages.
	AAT	EICKHOFF, HOLGER et al. Webpage: "An Automated Platform for Miniaturized Protein Crystallization" (2002), Greiner Bio-One (Abstract), 1 page.
	AAU	ERLANDSEN, HEIDI et al. "Combining structural genomics and enzymology: completing the picture in metabolic pathways and enzyme active sites"(2000), Current Opinion Structural Biology, 10, pp. 719-730.
	AAV	FIEHN, HENDRIK et al., "Microsystem Technology for Pipetting Systems: Parallel Sample Treatment in the Submicroliter Range (25)", Small Talk the microfluidics and microarrays Conference Final Conference Program, Association for Laboratory Automation, (7/8-12/2000), San Diego, California (Abstract), 2 pages.
	AAW	GAASTERLAND, TERRY, "Feasibility of Structural Genomics and Impact on Computational Biology: Post-Workshop Review", Mathematics and Computer Science Division, Argonne National Laboratory (1/26/1998), 7 pages.
	AAX	Website: "General Interest II - Invited Abstracts", printed from <a href="http://www.hwi.buffalo.edu/ACA/ACA01/abstracts">http://www.hwi.buffalo.edu/ACA/ACA01/abstracts</a> (7/26/01), 2 pages.
	AAZ	GOODWILL, KENNETH E., et al., "High-throughput x-ray crystallography for structure-based drug design", DDT Vol. 6, No. 15 (Suppl.) (2001), pp. S113-S118.

Examiner  
Signature

*Yelun Hah*

Date  
Considered

12/10/04

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.

<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 15 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Institute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 5 of 8

**Complete if Known**

Application Number	10/026,362
Filing Date	December 21, 2001
First Named Inventor	Bernard Santarsiero et al.
Group Art Unit	1754
Examiner Name	Maribel Medina
Attorney Docket Number	2960.54-3

1/6	AAZ	Website: "A recipe to grow crystals of lysozyme by the gel acupuncture technique: Granada Crystallization Box", <a href="http://lec.ugr.es/GranadaCrystBox/GCB">http://lec.ugr.es/GranadaCrystBox/GCB</a> (4/11/02), 7 pages.
	ABA	HEINEMANN, UDO et al., "The Berlin "Protein Structure Factory" Initiative", Scientific Concepts, <a href="http://www.rzpd.de/psf/s_concept2.html">http://www.rzpd.de/psf/s_concept2.html</a> (12/21/01), 16 pages.
	ABB	Press Release: "High-throughput protein crystallization screening and polymorph screening", (Abstract) <a href="http://www.steinbeis-europa.de/db/ircnet_details.php?BEREICH=LIFE&amp;TYP=Offer&amp;BB">http://www.steinbeis-europa.de/db/ircnet_details.php?BEREICH=LIFE&amp;TYP=Offer&amp;BB</a> (5/7/01), 2 pages.
	ABC	HOSFIELD, DAVID et al., "A fully integrated protein crystallization platform for small-molecule drug discovery" (2003), Journal of Structural Biology, 142, pp. 207-217.
	ABD	JING, HUA et al., "New structural motifs on the chymotrypsin fold and their potential roles in complement factor B", Euro. Mol. Bio. Org., Vol. 19, No. 2 (2000), pp. 164-173.
	ABE	JING, HUA et al., "Structures of Native and Complexed Complement Factor D: Implications of the Atypical His57 Conformation and Self-inhibitory Loop in the Regulation of Specific Serine Protease Activity", J. Mol. Biol. 282 (1998), pp. 1061-1081.
	ABF	JING, HUA et al., "Structural basis of profactor D activation: from a highly flexible zymogen to a novel self-inhibited serine protease, complement factor D", Euro. Mol. Bio. Org., Vol. 18, No. 4 (1999), pp. 804-814.
	ABG	Press Release: "Joint Center For Structural Genomics Funded to Advance High-Throughput Protein Structure Determination", <a href="http://www.sdsc.edu/Press/00/092600.html">http://www.sdsc.edu/Press/00/092600.html</a> (9/25/00), 3 pages.
	ABH	JONES, RONALD et al., "Fully Automated Preparation of Hanging Drop Protein Crystallization Plates, Abstract from ACA01 meeting, <a href="http://www.hwi.buffalo.edu/ACA/ACA01/abstracts/text/W0352.html">http://www.hwi.buffalo.edu/ACA/ACA01/abstracts/text/W0352.html</a> (2001), 1 page.
	ABI	JURISICA, I. et al., "High Throughput Macromolecular Crystallization: An Application of Case-Based Reasoning and Data Mining", Methods in Macromolecular Crystallography, IOS Press (2001), pp. 9-14.
	ABJ	KAM, Z. et al., "On the Crystallization of Proteins", J. Mol. Biol. 123 (1978), pp. 539-555.
	ABK	KOLTAY, PETER, "A Novel Fixed Volume Dispenser for the Massive Parallel Liquid Handling of Nanoliter Volumes", Abstract for Presentation, <a href="http://www.eurolabautomation.org">http://www.eurolabautomation.org</a> (10/25/01), 2 pages.
	ABL	KUHN, PETER et al., "The genesis of high-throughput structure-based drug discovery using protein crystallography" (2002), Curr. Opin. Chem. Biol., 6, 704 - 710.
	ABM	LESLEY, SCOTT A. et al., "Structural genomics of the Thermotoga maritima proteome implemented in a high-throughput structure determination pipeline" (2002), Proc. Natl. Acad. Sci., 99, 11664 - 11669.
	ABN	LOWE, JAN. et al., "Capital Equipment MRC Laboratory of Molecular Biology" (11/4/01), 4 pages.
	ABO	LUO, MING "Structural Genomics of C. elegans", <a href="http://www.hwi.buffalo.edu/ACA/ACA02/abstracts/text/W0027.html">www.hwi.buffalo.edu/ACA/ACA02/abstracts/text/W0027.html</a> (2002), (Abstract), 1 page.

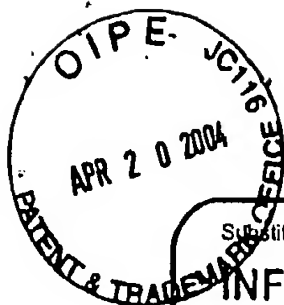
Examiner  
SignatureDate  
Considered

12/10/04

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 6 of 8

### Complete if Known

Application Number	10/026,362
Filing Date	December 21, 2001
First Named Inventor	Bernard Santarsiero et al.
Group Art Unit	1754
Examiner Name	Maribel Medina
Attorney Docket Number	2960.54-3

46	ABP	LUFT, JOSEPH R. et al., "High Throughput Protein Crystallization: Keeping up with the Genomics", Abstract from the presentation given at Gordon Research Conference "Diffraction Methods in Molecular Biology", <a href="http://www.imca.aps.anl.gov/~ahoward/luft_ab.html">http://www.imca.aps.anl.gov/~ahoward/luft_ab.html</a> (7/2000), 1 page.
	ABQ	LUFT, JOSEPH R. et al., "The development of high throughput methods for macromolecular microbatch crystallization", Hampton Research - RAMC 1999 Presentation Abstracts (1999), 1 page.
	ABR	MOCHALKIN, IGOR et al., "High-Throughput Structure Determination in an Informatics Environment", <a href="http://www.accelrys.com/webzine">http://www.accelrys.com/webzine</a> (8/1/02), 4 pages.
	ABS	MUELLER, UWE, et al., "Development of a Technology for Automation and Miniaturization of Protein Crystallization", J. Biotech. (2001), 85, pp. 7 -14.
	ABT	Meeting Summary: "NIGMS Protein Structure Initiative Meeting Summary 4-24-98", <a href="http://www.nigms.nih.gov/news/reports/protein_structure.html">http://www.nigms.nih.gov/news/reports/protein_structure.html</a> (4/24/98), 12 pages.
	ABU	Meeting Summary: "NIGMS Structural Genomics Targets Workshop February 11-12, 1999", <a href="http://www.nigms.nih.gov/news/meetings/structural_genomics_targets.html">http://www.nigms.nih.gov/news/meetings/structural_genomics_targets.html</a> , 18 pages.
	ABV	NYARSIK, LAJOS. et al., "High Throughput Screening Station for Automated Protein Crystallization", (Abstract) (Estimated to be around 2002), 1 page.
	ABW	PAGE, REBECCA. et al., "Shotgun crystallization strategy for structural genomics: an optimized two-tiered crystallization screen against the Thermotoga maritima proteome"(2003), Acta Cryst., D59, pp.1028 - 1037.
	ABX	Report: "Physical Biosciences Division, particularly section "Protein Microcrystallization Robotic System" (1998), pp.14 - 17, <a href="http://www.nsd.lbl.gov/LBL-Publications/LDRD/1998/PB/index.html#jaklevic">http://www.nsd.lbl.gov/LBL-Publications/LDRD/1998/PB/index.html#jaklevic</a> , 17 pages.
	ABY	PREUSS, PAUL, "The Crystal Robot", Berkeley Lab Research Review Summer 2000, <a href="http://www.lbl.gov/Science-Articles/Research-Review/Magazine/2000/Winter/features">http://www.lbl.gov/Science-Articles/Research-Review/Magazine/2000/Winter/features</a> (2000), 3 pages.
	ABZ	Report: "Protein Microcrystallization and Structure Determination", <a href="http://www.-nsd.lbl.gov/LBL-Publications/LDRD/1999/PBD.html#Stevens">http://www.-nsd.lbl.gov/LBL-Publications/LDRD/1999/PBD.html#Stevens</a> (1999), 3 pages.
	ACA	Press Release: "RAMC 2001-Poster Abstracts", <a href="http://www.hamptonresearch.com/stuff/RAMC01PA.html">www.hamptonresearch.com/stuff/RAMC01PA.html</a> (2001), 17 pages.
	ACB	RUPP, BERNARD, "High Throughput Protein Crystallization-EMBL Practical Course on Protein Expression, Purification, and Crystallization-August 14 - 20 <sup>th</sup> , 2000", EMBL Outstation Hamburg, Germany, <a href="http://www.structure.llnl.gov/Xray/tutorial/High_Throughput_EMBL_full.html">http://www.structure.llnl.gov/Xray/tutorial/High_Throughput_EMBL_full.html</a> (2000), 10 pages.
	ACC	SANCHEZ, ROBERTO et al., "Protein structure modeling for structural genomics", Nature Structural Biology, Structural Genomics Supplement (11/2000), pp. 986-990.
	ACD	SANTARSIERO, BERNARD et al., "An approach to rapid protein crystallization using nanodroplets" J. Appl. Cryst., 35 (2002), pp. 278 - 281.
	ACE	SANTARSIERO, BERNARD et al., "Protein Micro-Crystallization Robotics System", W0251: Protein Micro-Crystallization Robotics System, (Abstract for ACA99 meeting) <a href="http://www.hwi.buffalo.edu/ACA/ACA99/Abstracts/Text/W0251">http://www.hwi.buffalo.edu/ACA/ACA99/Abstracts/Text/W0251</a> (1999), 2 pages.

Examiner  
Signature

Maribel Medina

Date  
Considered

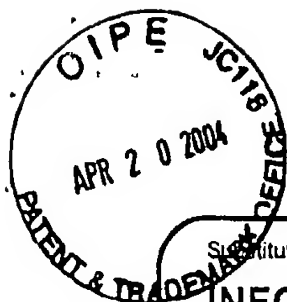
12/10/04

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.

<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 7 of 8

**Complete If Known**

Application Number	10/026,362
Filing Date	December 21, 2001
First Named Inventor	Bernard Santarsiero et al.
Group Art Unit	1754
Examiner Name	Maribel Medina
Attorney Docket Number	2960.54-3

✓	ACF	SARIDAKIS, EMMANUEL et al., "Improving protein crystal quality by decoupling nucleation and growth in vapor diffusion", Protein Sci. 9, (2000), pp. 755-757.
✓	ACG	SCHUETZ, ANDREAS J. et al., "A Novel nano-pipetting system for the development of high quality BioChip arrays", <a href="http://www.tecan.com/la2000_nanopip.pdf">http://www.tecan.com/la2000_nanopip.pdf</a> (2000), 1 page.
✓	ACH	SELBY, THOMAS L. et al., "Bioinformatics and High-Throughput Protein Production for Structural Genomics" (2002), Gene Cloning and Expression Technologies, pp.281 - 304.
✓	ACI	SHAW STEWART, PATRICK, "Crystallization of a protein by microseeding after establishing its phase diagram", Research Report 1, <a href="http://www.douglas.co.uk/resrep.htm">www.douglas.co.uk/resrep.htm</a> (8/1995), 7 pages.
✓	ACJ	SHUMATE, CHRISTOPHER, "Low-volume (nanoliter) automated pipetting", Am. Biotechnol Lab. (1993), 11, page 14.
✓	ACK	SNELL, E.H. et al., "Partial Improvement of Crystal Quality for Microgravity-Grown Apocrustacyanin C <sub>1</sub> ", Acta. Cryst., D53 (1997), pp. 231-239.
✓	ACL	STEVENS, RAYMOND C. et al., "Global Efforts in Structural Genomics", Science (10/5/01), 294, pp. 89-92.
✓	ACM	STEVENS, RAYMOND C. "High-throughput protein crystallization" (Review), Current Opinion in Structural Biology (2000), 10, pp. 558-563.
✓	ACN	STEVENS, RAYMOND C., "Design of high-throughput methods of protein production for structural biology", Structure, Vol. 8, No. 9, (2000), pp. R177-R185.
✓	ACO	STEVENS, RAYMOND C., "Industrializing Structural Biology", Science, Vol. 293 (7/20/01), pp. 519-522.
✓	ACP	STEVENS, RAYMOND C., "The cost and value of three-dimensional protein structure" (2003), Drug Discovery World, 4, pp.35 - 48.
✓	ACQ	Webpage: "High-throughput Technology Publications", <a href="http://stevens.scripps.edu/webpage/htsb/htpubs.html">http://stevens.scripps.edu/webpage/htsb/htpubs.html</a> (1/2004), 2 pages.
✓	ACR	STEVENSON, ROBERT, "The World of Separation Science - Lab Automation '01: A Market Preparing For Transition?" (2001), 2 pages.
✓	ACS	S7-Instrumentation - Instrumentation and techniques for crystallization (Oral Presentation), Nancy 2000 XIX European Crystallographic Meeting August 25 - 31, 2000, pp.1-3.
✓	ACT	Press Release: "The Robot- X-ray Crystallography in Leiden", <a href="http://www.chem.leidenuniv.nl/bfsc/robot.html">http://www.chem.leidenuniv.nl/bfsc/robot.html</a> (3/2/2002), 2 pages.
✓	ACU	Webpage: "The Society for Biomolecular Screening-7 <sup>th</sup> Annual Conference and Exhibition Poster Session 7 - Genomics, Proteomics and New Target Discovery", (2001), see #7014-7015, <a href="http://www.hwi.buffalo.edu">http://www.hwi.buffalo.edu</a> , 5 pages.

Examiner  
Signature

Jelene Gab

Date  
Considered

12/10/04

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.

<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet	8	of	8
Attorney Docket Number			

**Complete if Known**

Application Number	10/026,362
Filing Date	December 21, 2001
First Named Inventor	Bernard Santarsiero et al.
Group Art Unit	1754
Examiner Name	Maribel Medina
Attorney Docket Number	2960.54-3

✓	ACV	TISONE, T.C. et al., "The Role of Non Contact Microfluidics in High Throughput Protein Crystallization", (Abstract W0282 from ACA 2002 Meeting) <a href="http://www.hwi.buffalo.edu/ACA/ACA02/abstracts/text/W0282.html">http://www.hwi.buffalo.edu/ACA/ACA02/abstracts/text/W0282.html</a> , 1 page.	
✓	ACW	VAN DER WOERD, MARK J. et al., "About Small Streams and Shiny Rocks: Macromolecular Crystal Growth in Microfluidics" (Abstract W0210 from ACA 2002 Meeting) <a href="http://www.hwi.buffalo.edu/ACA/ACA02/abstracts/text/W0210.html">http://www.hwi.buffalo.edu/ACA/ACA02/abstracts/text/W0210.html</a> , 1 page.	
✓	ACX	VAN DER WOERD, MARK J., "Lab-on-a-Chip Based Protein Crystallization [P-66]". (Abstract) SmallTalk 2001 Association for Laboratory Automation Final Conference Program, San Diego, CA, (August 27-31, 2001), 2 pages.	
✓	ACY	Presentation: VAN DER WOERD, MARK J. et al., "Lab-on-a-Chip Based Protein Crystallization" (10/25/01), 27 pages.	
✓	ACZ	VILLASENOR, ARMANDO et al., "Fast Drops: A Speedy Approach to Setting Up Protein Crystallization Trials" (Abstract W0309 from ACA 2001 Meeting) <a href="http://www.hwi.buffalo.edu/ACA/ACA01/abstracts/text/W0309.html">http://www.hwi.buffalo.edu/ACA/ACA01/abstracts/text/W0309.html</a> , 1 page.	
✓	ADA	WESELAKE, M. et al., "Robotics for Automated Crystal Formation and Analysis"(2003), Methods in Enzymology, 368, pp.45-76.	
✓	ADB	Presentation: "Working Group on Biosciences" Chair: Graham Fleming, University of California, Berkeley, <a href="http://www.-als.lbl.gov/als/workshops/scidirecthtml/9BioSci/Word Work File L 646 (1998), pp. 175-198">http://www.-als.lbl.gov/als/workshops/scidirecthtml/9BioSci/Word Work File L 646 (1998), pp. 175-198</a> .	

Examiner Signature	<i>Julia Hal</i>	Date Considered	12/10/04
--------------------	------------------	-----------------	----------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.

<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Substitute for form 1449A/PTO		<b>Complete If Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number	10/026,362
		Filing Date	December 21, 2001
		First Named Inventor	Bernard Santarsiero
		Group Art Unit	1754
		Examiner Name	Peter J. Lish
		Attorney Docket Number	UC-5001-C2
Sheet	1	of	1

U.S. PATENT DOCUMENTS					
Examiner Initials *	Cite No. <sup>1</sup>	Document Number	Publication Date/ Issue Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code <sup>2</sup> (if known)			
	AA	US- 6,148,878B1	11-21-00	Ganz et al.	
	AB	US- 6,360,792B1	03-26-02	Ganz et al.	
	AC	US- 2003/0000597A1	01-02-03	Ganz et al.	
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			
		US-			

APR 2 2003  
PATENT & TRADEMARK OFFICE

GROUP 1700  
APR 2 2003  
RECEIVED

FOREIGN PATENT DOCUMENTS						
Examiner Initials *	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> - Number <sup>4</sup> - Kind Code <sup>5</sup> (if known)				

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>

Examiner Signature	Melen Hal	Date Considered	12/19/04
-----------------------	-----------	--------------------	----------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.

<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

PTO/SB/08A (10-01)

Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 1

## Complete if Known

Application Number	10/026,362
Filing Date	December 21, 2001
First Named Inventor	Bernard Santarsiero
Group Art Unit	1754
Examiner Name	Peter J. Lish
Attorney Docket Number	UC-5001-C2

## U.S. PATENT DOCUMENTS

U.S. PATENT DOCUMENTS						
Examiner Initials *	Cite No. <sup>1</sup>	Document Number	Publication Date/ Filing Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	
		Number - Kind Code <sup>2</sup> (# known)				
VB	AA	US- 2002/0110818A1	08-18-02	Santarsiero et al.		
	AB	US- 2002/0143153A1	10-03-02	Santarsiero et al.		
	AC	US- 2002/0155504A1	10-24-02	Santarsiero et al.		
	AD	US- 2002/0160426A1	10-31-02	Santarsiero et al.		
	AE	US- 2002/0173052A1	11-21-02	Santarsiero et al.		
	AF	US- 10/323,037	12/18/02	Santarsiero et al.		
	AG	US- 10/323,319	12/18/02	Santarsiero et al.		
	AH	US- 10/323,378	12/18/02	Santarsiero et al.		
	AI	US- 10/322,952	12/18/02	Santarsiero et al.		
	AJ	US- 10/323,849	12/18/02	Santarsiero et al.		
	AK	US- 10/323,054	12/18/02	Santarsiero et al.		
	AL	US- 10/324,022	12/18/02	Santarsiero et al.		
	AM	US- 10/334,336	12/31/02	Santarsiero et al.		
	AN	US- 10/334,396	12/31/02	Santarsiero et al.		

## FOREIGN PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T*
		Country Code <sup>2</sup> - Number <sup>4</sup> - Kind Code <sup>3</sup> (if known)				

## OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>

Examiner  
Signature

Peter Lish

Date  
Considered

12/10/01

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04.  
<sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for

APR 17 2003  
IP 1700



PTO/SB/08A (10-01)  
Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE  
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number

Substitute for form 1449A/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 5

### Complete If Known

Application Number	10/026,362
Filing Date	December 21, 2001
First Named Inventor	Bernard D. Santarsiero et al.
Group Art Unit	1754
Examiner Name	
Attorney Docket Number	2960.54-3

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
YB	AA	ARAKALI, SHEELA V., EASLEY, SAMANTHA, LUFT, JOSEPH R. and DETITTA, GEORGE T., Time Courses of Equilibration for Ammonium Sulfate, Sodium Chloride and Magnesium Sulfate Heptahydrate in the Z/3 Crystallization Plate, Acta Cryst (1994), D50, pp. 472-478.	
	AB	ARAKALI, SHEELA V., LUFT, JOSEPH R. and DETITTA, GEORGE T., Non-ideality of Aqueous Solutions of Polyethylene Glycol: Consequences for Its Use as a Macromolecular Crystallizing Agent in Vapor-Diffusion Experiments, Acta Cryst (1995), D51, pp. 772-779.	
	AC	BARRETT, TRACEY E., SAVVA, RENOS, PANAYOTOU, GEORGE, BARLOW, TOM, BROWN, TOM, JIRICNY, JOSEF and PEARL, LAURENCE H., Crystal Structure of a G:T/U Mismatch-Specific DNA Glycosylase: Mismatch Recognition by Complementary-Strand Interactions, Cell (1998), Vol. 92, pp. 117-129.	
	AD	BAUER, ALAN J., RAYMENT, IVAN, FREY, PERRY A. and HOLDEN, HAZEL M., The Isolation, Purification, and Preliminary Crystallographic Characterization of UDP-Galactose-4-Epimerase From <i>Escherichia coli</i> , PROTEINS: Structure, Function and Genetics (1991), Vol. 9, pp. 135-142.	
	AE	BAUER, ALAN J., RAYMENT, IVAN, FREY, PERRY A. and HOLDEN, HAZEL M., The Molecular Structure of UDP-Galactose 4-Epimerase From <i>Escherichia coli</i> , Determined at 2.5 Å Resolution, PROTEINS: Structure, Function and Genetics (1992), Vol. 12, pp. 372-381.	
	AF	BLOW, D.M., CHAYEN, N.E., LLOYD, L.F. and SARIDAKIS, E., Control of nucleation of protein crystals, Protein Science (1994), Vol. 3, pp. 1638-1643.	
	AG	CHAYEN, NAOMI E., RADCLIFFE, JONATHAN W. and BLOW, DAVID M., Control of nucleation in the crystallization of lysozyme, Protein Science (1993), Vol. 2, pp. 113-118.	
	AH	CHAYEN, NAOMI E., GORDON, ELSPEETH J., PHILLIPS, SIMON E.V., SARIDAKIS, E.G., and ZAGALSKY, PETER F., Crystallization and initial X-ray analysis of $\beta$ -crustacyanin, the dimer of apoproteins A <sub>2</sub> and C <sub>1</sub> , each with a bound astaxanthin molecule, Acta Cryst. (1996), D52, pp. 409-410.	
	AI	CHAYEN, NAOMI E., A novel technique for containerless protein crystallization, Protein Engineering (1996), Vol. 9, No. 10, pp. 927-929.	
	AJ	CHAYEN, NAOMI E., CONTI, ELENA, VIELLE, CLAIRE and ZEIKUS, J. GREGORY, Crystallization and initial X-ray analysis of xylose isomerase from <i>Thermotoga neapolitana</i> , Acta Cryst. (1997), D53, pp. 229-230.	
	AK	CHAYEN, NAOMI E., Comparative Studies of Protein Crystallization by Vapour-Diffusion and Microbatch Techniques, Acta Cryst. (1998), D54, pp. 8-15.	
	AL	CHAYEN, NAOMI E., Recent advances in methodology for the crystallization of biological macromolecules, Journal of Crystal Growth (1999), Vol. 198/199, pp. 649-655.	
	AM	CHAYEN, NAOMI E., Crystallization with oils: a new dimension in macromolecular crystal growth, Journal of Crystal Growth (1999), Vol. 196, pp. 434-441.	

Examiner Signature	<i>Yelw</i> <i>Ali</i>	Date Considered	12/10/04
--------------------	------------------------	-----------------	----------

\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

RECEIVED

DEC 13 2002  
TC 1700

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if known	
Application Number	10/026,362
Filing Date	December 21, 2001
First Named Inventor	Bernard D. Santarsiero et al.
Group Art Unit	1754
Examiner Name	
Attorney Docket Number	2960.54-3

(use as many sheets as necessary)

Sheet 2 of 5

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

✓6	AN	CONTI, ELENA, LLOYD, LESLEY F., AKINS, JOHN, FRANKS, NICK P. and BRICK, PETER, Crystallization and preliminary diffraction studies of firefly luciferase from <i>Photinus pyralis</i> , Acta Cryst. (1996), D52, pp. 876-878.
	AO	COWAN-JACOB, SANDRA W., RAHUEL, JOSEPH, NAGAI, ATSUKO, ISASAKI, GENJI and OHTA, DIASAKU, Crystallization and preliminary crystallographic analysis of cabbage histidinol dehydrogenase, Acta Cryst. (1996), D52, pp. 1188-1190.
	AP	D'ARCY, A., ELMORE, C., STIHLE, M. and JOHNSTON, J.E., A novel approach to crystallizing proteins under oil, Journal of Crystal Growth (1996), Vol. 168, pp. 175-180.
	AQ	DETITTA, GEORGE T. and LUFT, JOSEPH R., Rate of Water Equilibration in Vapor-Diffusion Crystallization: Dependence on the Residual Pressure of Air in the Vapor Space, Acta Cryst. (1995), D51, pp. 786-791.
	AR	ERLANDSEN, HEIDI, MARTINEZ, AURORA, KNAPPSKOG, PER M., HAAVIK, JAN, HOUGH, EDWARD and FLATMARK, TORGEIR, Crystallization and preliminary diffraction analysis of a truncated homodimer of human phenylalanine hydroxylase, FEBS Letters (1997), Vol. 406, pp. 171-174.
	AS	FISHER, ANDREW J., RAUSHEL, FRANK M., BALDWIN, THOMAS O. and RAYMENT, IVAN, Three-Dimensional Structure of Bacterial Luciferase from <i>Vibrio harveyi</i> at 2.4 Å Resolution, Biochemistry (1995), Vol. 34, pp. 6581-6586.
	AT	FISHER, ANDREW J., THOMPSON, THOMAS B., THODEN, JAMES B., BALDWIN, THOMAS O. and RAYMENT, IVAN, The 1.5-Å Resolution Crystal Structure of Bacterial Luciferase in Low Salt Conditions, Journal of Biological Chemistry (1996), Vol. 271, No. 36, pp. 21956-21968.
	AU	HARATA, K., NAGAHORA, H. and JIGAMI, Y., X-ray Structure of Wheat Germ Agglutinin Isolectin 3, Acta Cryst. (1995), D51, pp. 1013-1019.
	AV	HOLDEN, HAZEL M., ITO, MASAOKI, HARTSHORNE, DAVID J. and RAYMENT, IVAN, X-ray Structure Determination of Telokin, the C-terminal Domain of Myosin Light Chain Kinase, at 2.8 Å Resolution, J. Mol. Biol. (1992), Vol. 227, pp. 840-851.
	AW	JURISICA, I., ROGERS, P., GLASGOW, J.I., FORTIER, S., LUFT, J.R., WOLFLEY, J.R., BIANCA, M.A., WEEKS, D.R., DETITTA, G.T., Intelligent decision support for protein crystal growth, IBM Systems Journal (2001), Vol. 40, No. 2, pp. 394-409.
	AX	KANIKULA, AGNES M., LIAO, HANS H., SAKON, JOSHUA, HOLDEN, HAZEL M. and RAYMENT, IVAN, Crystallization and Preliminary Crystallographic Analysis of a Thermostable Mutant of Kanamycin Nucleotidyltransferase, Archives of Biochemistry and Biophysics (1992), Vol. 295, No. 1, pp. 1-4.
	AY	KORKHIN, YAKOV, FROWLOW, FELIX, BOGIN, OREN, PERETZ, MOSHE, KALB, A. JOSEPH and BURSTEIN, YIGAL, Crystalline alcohol dehydrogenases from the mesophilic bacterium <i>Clostridium beijerinckii</i> and the thermophilic bacterium <i>Thermoanaerobium brockii</i> : preparation, characterization and molecular symmetry, Acta Cryst. (1996), D52, pp. 882-886.
	AZ	KOSTREWA, DIRK and WINKLER, FRITZ K., Mg <sup>2+</sup> Binding to the Active Site of EcoRV Endonuclease: A Crystallographic Study of Complexes with Substrate and Product DNA at 2 Å Resolution, Biochemistry (1995), Vol. 34, pp. 683-696.
	BA	LESBURG, CHARLES A., CABLE, MICHAEL B., FERRARI, ERIC, HONG, ZHI, MANNARINO, ANTHONY F. and WEBER, PATRICIA C., Crystal structure of the RNA-dependent RNA polymerase from hepatitis C virus reveals a fully enclosed active site, Nature Structural Biology (1999), Vol. 6, Number 10, pp. 937-943.
✓	BB	LILLEY, GLENN G., BARBOSA, JOAO A.R.G. and PEARCE, LESLEY A., Expression in <i>Escherichia coli</i> of the Putative N-Acetylneuraminase Lyase Gene ( <i>nanA</i> ) from <i>Haemophilus influenzae</i> : Overproduction, Purification, and Crystallization, Protein Expression and Purification (1998), Vol. 12, pp. 295-304.

Examiner Signature	<i>Yelena Gali</i>	Date Considered	12/10/04
--------------------	--------------------	-----------------	----------

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

RECEIVED

DEC 13 2002  
TC 1700

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 3 of 5

Application Number 10/026,362  
 Filing Date December 21, 2001  
 First Named Inventor Bernard D. Santarsiero et al.  
 Group Art Unit 1754  
 Examiner Name  
 Attorney Docket Number 2960.54-3

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

✓	BC	LORBER, BERNARD and GIEGE, RICHARD, Containerless protein crystallization in floating drop application to crystal growth monitoring under reduced nucleation conditions, Journal of Crystal Growth (1996), Vol. 168, pp. 204-215.
✓	BD	LLOYD, LESLEY F., BRICK, PETER, MEI-ZHEN, LOU, CHAYEN, NAOMI E. and BLOW, DAVID M., Many Crystal Forms of Human Immunodeficiency Virus Reverse Transcriptase, J. Mol. Biol. (1991), Vol. 217, pp. 19-22.
✓	BE	LLOYD, LESLEY F., BRICK, PETER and BLOW, DAVID M., Crystallization studies on HIV-1 reverse transcriptase, Journal of Crystal Growth (1992), Vol. 122, pp. 355-359.
✓	BF	LUFT, JOSEPH R. and DETITTA, GEORGE T., HANGMAN: a macromolecular hanging-drop vapor-diffusion technique, J. App. Cryst. (1992), Vol. 25, pp. 324-325.
✓	BG	LUFT, JOSEPH R., ARAKALI, SHEELA V., KIRISITS, MARY J., KALENIK, JENNIFER, ILONA WAWRZK, CODY, VIVIAN, PANGBORN, WALTER A. and DETITTA, GEORGE T., A Macromolecular Crystallization Procedure Employing Diffusion Cells of Varying Depths as Reservoirs to Tailor the Time Course of Equilibration in Hanging- and Sitting-Drop Vapor-Diffusion and Microdialysis Experiments, J. Appl. Cryst. (1994), Vol. 27, pp. 443-452.
✓	BH	LUFT, JOSEPH R. and DETITTA, GEORGE T., Chaperone Salts, Polyethylene Glycol and Rates of Equilibration in Vapor-Diffusion Crystallization, Acta Cryst. (1995), D51, pp. 780-785.
✓	BI	LUFT, JOSEPH R., ALBRIGHT, DOUGLAS T., BAIRD, JAMES K. and DETITTA, GEORGE T., The Rate of Water Equilibration in Vapor-Diffusion Crystallization: Dependence on the Distance from the Droplet to the Reservoir, Acta Cryst. (1996), D52, pp. 1098-1106.
✓	BJ	LUFT, JOSEPH R. and DETITTA, GEORGE T., Kinetic Aspects of Macromolecular Crystallization, Methods in Enzymology (1997), Vol. 276, No. 7, pp. 110-130.
✓	BK	LUFT, JOSEPH R. and DETITTA, GEORGE T., A method to produce microseed stock for use in the crystallization of biological macromolecules, Acta Cryst. (1999), D55, pp. 988-993.
✓	BL	LUFT, JOSEPH R., RAK, DAWN M. and DETITTA, GEORGE T., Microbatch macromolecular crystallization on a thermal gradient, Journal of Crystal Growth (1999), Vol. 196, pp. 447-449.
✓	BM	LUFT, JOSEPH R., WOLFLEY, JENNIFER, JURISICA, IGOR, GLASGOW, JANICE, FORTIER, SUZANNE and DETITTA, GEORGE T., Macromolecular crystallization in a high throughput laboratory—the search phase, Journal of Crystal Growth (2001), Vol. 232, pp. 591-595.
✓	BN	McPHERSON, ALEXANDER, KOSZELAK, STANLEY, AXELROD, HERBERT, DAY, JOHN, WILLIAMS, ROGER, ROBINSON, LINDSAY, McGRATH, MARY and CASCIO, DUILIO, An Experiment Regarding Crystallization of Soluble Proteins in the Presence of $\beta$ -Octyl Glucoside, Journal of Biological Chemistry (1986), Vol. 261, No. 4, pp. 1969-1975.
✓	BO	O'HARA, BERNARD P., HEMMINGS, ANDREW M., BUTTLE, DAVID J. and PEARL, LAURENCE H., Crystal Structure of Glycyl Endopeptidase from <i>Carica papaya</i> : A Cysteine Endopeptidase of Unusual Substrate Specificity, Biochemistry (1995), Vol. 34, pp. 13190-13195.
✓	BP	PANAYOTOU, GEORGE, BROWN, TOM, BARLOW, TOM, PEARL, LAURENCE H. and SAVVA, RENOS, Direct Measurement of the Substrate Preference of Uracil-DNA Glycosylase, Journal of Biological Chemistry (1998), Vol. 273, No. 1, pp. 45-50.
✓	BQ	PEARL, LAURENCE H., HEMMINGS, ANDREW M., NUCCI, ROBERTO and ROSSI, MOSE, Crystallization and Preliminary X-ray Analysis of the $\beta$ -Galactosidase from the Extreme Thermophilic Archaeobacterium <i>Sulfolobus solfataricus</i> , J. Mol. Biol. (1993), Vol. 229, pp. 561-563.
✓	BR	PEARL, LAURENCE H., DEMASI, DOMENICO, HEMMINGS, ANDREW M., SICA, FILOMENA, MAZZARELLA, LELIO, RAIA, CARLO A., D'AURIA, SABATO and ROSSI, MOSE, Crystallization and Preliminary X-ray Analysis of an NAD <sup>+</sup> -dependent Alcohol Dehydrogenase from the Extreme Thermophilic Archaeobacterium <i>Sulfolobus solfataricus</i> , J. Mol. Biol. (1993), Vol. 229, pp. 782-784.

Examiner  
Signature

Yew Huh

Date  
Considered

12/10/04

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

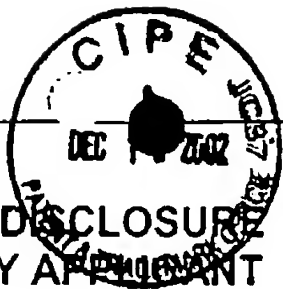
\* Unique citation designation number (optional). \* Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

RECEIVED  
DEC 13 2002  
TG 1706

Substitute for form 1449A/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT



Application Number 10/026,362  
 Filing Date December 21, 2001  
 First Named Inventor Bernard D. Santarsiero et al.  
 Group Art Unit 1754  
 Examiner Name  
 Attorney Docket Number 2960.54-3

(use as many sheets as necessary)

Sheet 4 of 5

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Y6	BS	PEARL, LAURENCE, O'HARA, BERNARD, DREW, ROBERT and WILSON, STUART, Crystal structure of AmiC: the controller of transcription antitermination in the amidase operon of <i>Pseudomonas aeruginosa</i> , EMBO Journal (1994), Vol. 13, No. 24, pp. 5810-5817.
	BT	PEARL, LAURENCE H. and PRODROMOU, CHRISOSTOMOS, STRUCTURE, FUNCTION, AND MECHANISM OF THE Hsp90 MOLECULAR CHAPERONE, Section of Structural Biology, Institute of Cancer Research, Chester Beatty Laboratories (2002), pp. 157-186.
	BU	PEAPUS, DIANE H., JAMES, ROBERT W. and WALLACE, B.A., Preliminary Crystallization and X-ray Analysis of Orthorhombic Human Endothelin, J. Mol. Biol. (1993), Vol. 234, pp. 1250-1252.
	BV	PETSKO, GREGORY A., Preparation of Isomorphous Heavy-Atom Derivatives, Methods in Enzymology (1985), Vol. 114, No. 13, pp. 147-155.
	BW	PRODROMOU, CHRISOSTOMOS, PIPER, PETER W. and PEARL, LAURENCE H., Expression and Crystallization of the Yeast Hsp82 Chaperone, and Preliminary X-Ray Diffraction Studies of the Amino-Terminal Domain, PROTEINS: Structure, Function, and Genetics (1996), Vol. 25, pp. 517-522.
	BX	PRODROMOU, CHRISOSTOMOS, ROE, S. MARK, O'BRIEN, RONAN, LADBURY, JOHN E. PIPER, PETER W. and PEARL, LAURENCE H., Identification and Structural Characterization of the ATP/ADP-Binding Site in the Hsp90 Molecular Chaperone, Cell (1997), Vol. 90, pp. 65-75.
	BY	SAKON, JOSHUA, LIAO, HANS H., KANIKULA, AGNES M., BENNING, MATTHEW M., RAYMENT, IVAN and HOLDEN, HAZEL M., Molecular Structure of Kanamycin Nucleotidyltransferase Determined to 3.0-A Resolution, Biochemistry (1993), Vol. 32, pp. 11977-11984.
	BZ	SAVVA, RENOS and PEARL, LAURENCE H., Crystallization and Preliminary X-ray Analysis of the Uracil-DNA Glycosylase DNA Repair Enzyme from Herpes Simplex Virus Type 1, J. Mol. Biol. (1993), Vol. 234, pp. 910-912.
	CA	SAVVA, RENOS and PEARL, LAURENCE H., Cloning and Expression of the Uracil-DNA Glycosylase Inhibitor (UGI) From Bacteriophage PBS-1 and Crystallization of a Uracil-DNA Glycosylase-UGI Complex, PROTEINS: Structure, Function, and Genetics (1995), Vol. 22, pp. 287-289.
	CB	SARIDAKIS, EMMANUEL E.G., SHAW STEWART, PATRICK D., LLOYD, LESLEY F. and BLOW, DAVID M., Phase Diagram and Dilution Experiments in the Crystallization of Carboxypeptidase G <sub>2</sub> , Acta Cryst. (1994), D50, pp. 293-297.
	CC	SHAW STEWART, P.D. and KHIMASIA, M., Predisposed Gradient Matrices - a New Rapid Method of Finding Crystallization Conditions, Acta Cryst. (1994), D50, pp. 441-42.
	CD	SICA, FILOMENA, ADINOLFI, SALVATORE, VITAGLIANO, LUIGI, ZAGARI, ADRIANA, CAPASSO, SANTE and MAZZARELLA, LELIO, Cosolute effect on crystallization of two dinucleotide complexes of bovine seminal ribonuclease from concentrated salt solutions, Journal of Crystal Growth (1996), Vol. 168, pp. 192-197.
	CE	SIVARAMAN, J., COLOUMBE, RENE, MAGNY, MARIE-CLAUDE, MASON, PATRIZIA, MORT, JOHN S. and CYGLER, MIROSLAW, Crystallization of rat procathepsin B, Acta Cryst. (1996), D52, pp. 874-875.
	CF	THOMSON, JAMES, RATNAPARKHI, GIRISH S., VARADARAJAN, RAGHAVAN, STURTEVANT, JULIAN M. and RICHARDS, FREDERIC M., Thermodynamic and Structural Consequences of Changing a Sulfur Atom to a Methylene Group in the M13Nle Mutation in Ribonuclease-S, Biochemistry (1994), Vol. 33, pp. 8587-8593.
✓	CG	ZAGARI, A., SAVINO, L., CAPASSO, S., SICA, F. and MAZZARELLA, L., Crystallization and preliminary X-ray analysis of the river buffalo ( <i>Bubalus bubalis</i> L.) BB phenotype carbonmonoxyhaemoglobin, Acta Cryst. (1994), D50, pp. 778-780.

Examiner  
Signature

*Yelen Hoke*

Date  
Considered

12/19/04

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

RECEIVED  
DEC 13 2002  
TC 1700

Substitute for form 3449A/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 5 of 5

Application Number 10/020,362  
Filing Date December 21, 2001  
First Named Inventor Bernard D. Santarsiero et al.  
Group Art Unit 1754  
Examiner Name  
Attorney Docket Number 2960.54-3

**OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS**

46	CH	ZHOU, GENFA, PARTHASARATHY, GOPALAKRISHNAN, SOMASUNDARAM, THAYUMANASAMY, ABLES, ANDREA, ROY, LANCE, STRONG, SCOTT J., ELLINGTON, W. ROSS and CHAPMAN, MICHAEL S., Expression, purification from inclusion bodies, and crystal characterization of a transition state analog complex of arginine kinase: A model for studying phosphagen kinases. Protein Science (1997), Vol. 6, pp. 444-449.	

RECEIVED

DEC 13 2002

TC 1700

Examiner  
Signature

*John Hale*

Date  
Considered

12/19/04

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number (optional). <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.